

CASE STUDY

THE SOVIET UNION'S NUCLEAR LEGACY

How have Soviet decisions affected new leaders?

In 1965, Soviet officials used a nuclear bomb to create this reservoir in Semey, Kazakhstan.

As you have read, the breakup of the Soviet Union sparked regional conflicts and economic hardship. Equally serious were the problems caused by the Soviet Union's nuclear programs. These included nuclear warheads atop ballistic missiles, poorly constructed and maintained nuclear power stations, and decaying nuclear waste dumps. All threatened the region's people and environment.

An Unwelcome Legacy

When the USSR fell apart in the early 1990s, leaders around the world had serious concerns about the fate of the region's nuclear weapons. The Soviet Union, which had once controlled those weapons, was now separated into 15 independent republics. World leaders wanted to know who was in control of the weapons, where they were located, and how well they were protected. They also wondered what would become of the nuclear scientists who had worked on the weapons systems.

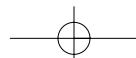
The weapons industry was just part of the problem. As the 1986 disaster at Chernobyl had so clearly shown, many of the region's nuclear reactors were badly built and poorly managed. Many reactors of the same design as the one that exploded at Chernobyl still exist. Observers fear another disaster may occur in the region.

Selected Nuclear Reactors in Former Soviet Republics



SKILLBUILDER: Interpreting Maps

- PLACE** How many Chernobyl-type nuclear reactors are operating in Lithuania?
- REGION** Why might Finland worry about nuclear power in Russia?



The Consequences of Collapse

The nuclear legacy of the USSR has had serious political, economic, and environmental consequences.

POLITICAL TENSIONS When the communist government could no longer keep the USSR together, the security of the region's nuclear materials became uncertain. This has caused political tension between the region's leaders and other nations, especially the United States.

In January 2000, a task force of former U.S. officials issued a report that suggested just how important the issue is. The report said that the possibility of Russian nuclear materials being stolen or misused is "the most urgent unmet national security threat" facing the United States. The task force recommended a \$30 billion program to help ensure the safety of Russia's nuclear weapons.

SEE

PRIMARY SOURCE A

ECONOMIC HEALTH The Soviet Union's nuclear legacy also affects the economic health of Russia and the former Soviet Republics. For example, many regional leaders have been reluctant to shut down aging Soviet reactors because of the expense of building new plants that run on other kinds of fuel, such as natural gas.

Some republics have taken questionable steps to revive their economies. For instance, Russian lawmakers recently approved plans to make their country the world's nuclear dump. In January 2001, the Duma, or legislature, gave preliminary approval to a plan to import, store, and treat nuclear waste from other countries. Officials hope the project will earn Russia as much as \$21 billion over the next ten years.

ENVIRONMENTAL PROSPECTS Plans for the disposal of other nations' nuclear waste angered Russian environmentalists. But other developments have given some hope that the region's environmental prospects might improve. In December 2000, the government of Ukraine finally shut down the last active reactor at Chernobyl. Officials there pledged to spend millions of dollars on a new protective dome for the site.

Help has also come from overseas. In October 2000, a U.S.-funded treatment plant opened near the White Sea. The 17-million-dollar facility will treat radioactive waste from Russia's fleet of nuclear submarines—waste that used to be dumped in the sea.

SEE

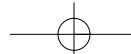
PRIMARY SOURCE D

You will learn more about these developments as you examine the primary sources and complete the Case Study Project on the following pages.

PLACE A Ukrainian official examines a nuclear missile just before it is to be dismantled as part of a U.S.-sponsored program.

Why would the United States sponsor this program in Ukraine?





CASE STUDY

PROJECT

Primary sources A to D on these two pages offer different views of the Soviet Union's nuclear legacy. Use these resources and your own research to prepare a damage assessment report of the region's nuclear situation today.

Damage Assessment Report

Suggested Steps

1. Choose a nuclear threat to investigate and examine its political, economic, and environmental consequences.
2. Use online and print resources to research your topic.
3. Be sure your damage assessment includes both causes and effects. Also, explain the steps being taken by regional officials to address the problems.
4. Search for interesting statistics, compelling stories, and first-person accounts to enliven your assessment.

5. Provide maps, charts, graphs, and photos to add visual interest to the assessment.
6. Prepare a brief oral introduction that introduces and explains your topic.

Materials and Supplies

- posterboard
- colored markers
- computer with Internet access
- reference books, newspapers, and magazines
- printer

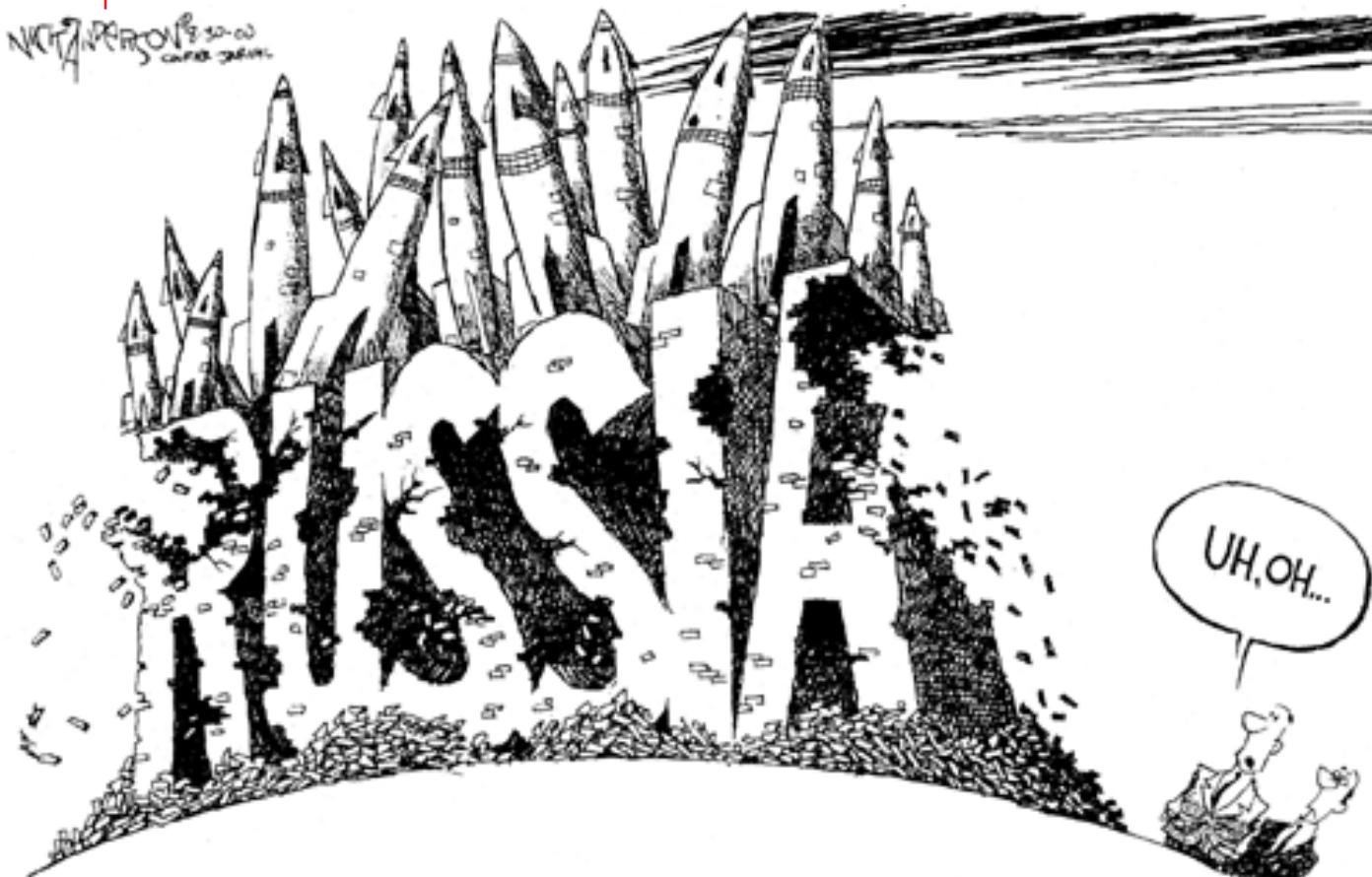


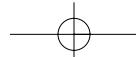
RESEARCH LINKS

CLASSZONE.COM

PRIMARY SOURCE A

Political Cartoon This cartoon by Nick Anderson illustrates the frightening prospect of a collapsing nuclear superpower.



**PRIMARY SOURCE B**

Editorial Commentary On January 21, 1999, the New York Times offered its comments on Russia's nuclear legacy.

There is no longer any threat of Russia's deliberately attacking the United States. But Moscow's still-formidable stocks of nuclear bombs, nuclear ingredients, and biological and chemical warfare agents pose a different kind of danger. Much of this material is inadequately secured, and the workers guarding it are paid poorly or not at all. That creates an unacceptably high risk that some material could be sold to potential aggressors like Iraq, Libya, North Korea, or Serbia. Many Russian weapons scientists are also unemployed or unpaid and vulnerable to foreign recruitment.

During the Cold War, the United States spent trillions of dollars to deter Russia from using its nuclear, biological, and chemical weapons. It would not take much more than \$10 billion to eliminate most of the risks from those weapons today.

PRIMARY SOURCE D

News Report In his dispatch of September 30, 1997, London Daily Telegraph reporter Christopher Lockwood relates yet another terrible tale from Russia's nuclear legacy of an environmental disaster waiting to happen.

Nothing on the outside indicates what lies within the retired Russian supply ship *Lepse* except the presence of a Kalashnikov-armed guard and the fact that the vessel is moored at the farthest possible point of the Atomplot shipyard in Murmansk.

In fact, *Lepse* may well be the most terrifying vessel on Earth, loaded with a deadly cargo of warped nuclear-reactor parts and spent fuel rods that would be sufficient to poison the world's population. . . .

For the past six years, Norway and Finland have been negotiating with Russia in an attempt to clear up the mess left by Russia's Northern Fleet, which had its headquarters in Severomorsk, near Murmansk. About 200 disused nuclear reactors and tens of thousands of fuel rods are haphazardly stored at its bases around Murmansk, in the Kola Peninsula.

"If there is a catastrophe in the Kola Peninsula, it can affect the whole of Europe's climate, perhaps for hundreds of years," said Norwegian Defense Minister Joergen Kosmo.

PRIMARY SOURCE C

News Report On December 15, 2000, 14 years and 7 months after the reactor explosion at Chernobyl, Ukraine's president ordered the plant closed. The excerpt below, written by New York Times reporter Michael Wines, outlines the economic impact that the shutdown will have.

The closing of Unit 3 [the plant's last working reactor] will cut off 5 percent of the electricity supply in a nation already deeply in [debt] to Russia for natural gas and dogged by shortages in its shoddily run power grid.

The closing will also gradually eliminate jobs of thousands of Ukrainians whose work depends, directly or indirectly, on Chernobyl's continued operation as a power plant. Beyond the layoffs at the plant itself, thousands of Ukrainians provide goods or services to Chernobyl workers.

Ukraine also faces immense costs in the future—\$750 million to cover the disaster site with a new [protective dome], hundreds of additional millions of dollars to remove 180 tons of lethal melted fuel and steel from the damaged core of Unit 4 and to store it safely, millions to build a new heating system and other necessities for the crews that will permanently care for the idle reactor site and millions for solid and liquid waste-processing plants to handle the fuel from the closing of Unit 3.

PROJECT *CheckList*
Have I . . .

- ✓ fully researched my topic?
- ✓ balanced my report by discussing both sides of the issue?
- ✓ created informative visuals that make my report clear and interesting?
- ✓ practiced explaining my report?
- ✓ anticipated questions others might ask and prepared answers?